

### REMARKS

#### Amendment in the Specification

The specification, in particular, paragraph 0020, is amended to correct an inadvertent error, wherein the foam assembly is assigned the part number 22 instead of 24.

#### Amendment in the Claims

Claim 15 is amended to add the limitation that the thermal protection system assembly is semi-rigid, as taught in the last two lines of paragraph [0016].

Claims 3 and 17 are amended to correct a typographical error.

Claims 23-27 are withdrawn due to non-election.

#### Claim Rejections -35 U.S.C. §102(b)

The Examiner has rejected claims 1, 2 and 6 under 35 U.S.C. 102(b) as being anticipated by Schmidt (U.S. Pat. No. 5,560,569).

The Examiner recites that Schmidt teaches an "assembly comprising: a foam assembly (29), a solid film bonded to outer surface of foam assembly (27); and a semi-rigid thermal protection system bonded to said foam assembly (25)."

This rejection is not well taken.

Firstly, part number 27 is not a solid film "bonded to said outer surface to provide a uniform outer bonding surface" as claimed by the present invention. Instead, part 27 is a strain isolation sheet extending inward of ceramic blocks. Part 27 is a pad formed from an elastomeric material for absorbing strain from thermal expansion which results from

differences in the coefficients of thermal expansion between flexible outer skin and ceramic blocks. (column 3, lines 56-60). As an elastomeric pad capable of absorbing strains (through deformation), part 27 should not be construed as a solid film for presenting a uniform bonding surface as taught in the present invention.

Secondly, part 25 is not semi-rigid as read by the Examiner. In contrary, Schmidt clearly recites "A plurality of rigid, high temperature, ceramic insulating blocks 25 extend into each of metal cups 21." (column 3, lines 39-40).

It is the applicant's position that the Examiner's reading of Schmidt is inaccurate and when read accurately, neither the independent claim (claim 1) nor the dependent claims (claims 2 and 6) is anticipated by Schmidt.

The applicant therefore respectfully requests the withdrawal of claim rejection due to anticipation over Schmidt.

**Claim Rejections -35 U.S.C. §103(a)**

Claims 3-5, 7-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt as applied to claims 1 and 2 above, and further in view of Middleton (U.S. Pat. No. 3,365,897).

Claims 3-5 and 7-10 directly or indirectly depend on the independent claim 1. Claims 11 and 15 are independent claims. Claims 12-14 directly or indirectly depend on claim 11. Claims 16-22 directly or indirectly depend on claim 15.

In formulating the rejections due to obviousness, the Examiner's position is that Schmidt teaches the invention as described above with respect to claims 1 and 2 and relies on Middleton to teach the use of a polyurethane layer (regarding claims 3, 4, 7 and

17), a honeycomb core (regarding claims 5, 11 and 18), a film layer bonded to inner surface of a foam layer (regarding claims 8, 13, 15 and 21), a fabric layer bonded to solid film layer (regarding claims 9, 10, 12, 14 and 15), a polyimide foam layer (claim 16), a silicon layer for bonding assembly together (regarding claim 19), and a second fabric layer bonded to the inside of foam layer (regarding claims 20 and 22).

The rejection is not well taken.

As set forth above, it is the applicant's position that the Examiner's reading of Schmidt is inaccurate and when read accurately, Schmidt does not teach the invention as claimed in claims 1 and 2.

Middleton, either considered alone or in combination with Schmidt, fails to teach the invention as claimed in claims 1 and 2.

Further, the Examiner's reliance on Middleton to teach the use of a polyurethane (foam) layer (31, 37) is based on inaccurate reading of Middleton. It is clearly indicated in Middleton (column 3, line 51 and line 55, and Table 1) that the polyurethane is present as an adhesive, rather than the insulating foam layer taught by the present invention. Middleton's teaching of polyurethane is therefore irrelevant to the present application.

In addition, the Examiner's reliance on Middleton to teach the use of a honeycomb core within the foam assembly (23) is also based on inaccurate reading. It is clearly indicated in Middleton (column 3, lines 48-50) that "the insulation assembly 21 includes a cellular insulating layer 23, such as a honeycomb core, having open cells 25 defined by cell walls 27." The honeycomb core taught by the present invention is not cellular and does not have open cells.

Therefore, the rejection to claims 3-5 and 7-10 (dependent on claim 1) should be withdrawn.

Similar to the arguments presented regarding claim 1, Schmidt and/or Middleton, fail to teach all the limitations as claimed in claims 11 and 15. Therefore, the rejection to claims 11-22 should be withdrawn.

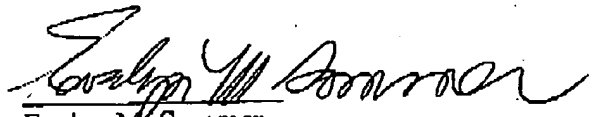
The applicant respectfully requests the withdrawal of claim rejection due to obviousness over Schmidt in view of Middleton.

#### SUMMARY

In view of the above, it is respectfully requested that the Examiner's rejections be withdrawn and the claims indicated as allowable to the applicant.

Respectfully Submitted  
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